FOREWORD

This is the *Coordinator's Manual* for the Community Rating System (CRS). It includes the *CRS Schedule*, which sets the criteria for Community Rating System (CRS) classification, and *CRS Commentary* on the *Schedule*. Section 100 gives general background information on the CRS. Section 200 explains the application procedures. Sections 300 through 700 explain the credit points and calculations that will be used to verify CRS credit. The procedures in these sections are used by a community to submit a modification for a better CRS classification.

Sections 110 (Introduction) and 120 (CRS Activities and Elements) can be used as a separate document to provide general information about the CRS to interested persons, such as elected officials and the media. See Appendix E to order other free publications about the CRS.

Section 120 also includes a "quick check" for communities to use to determine if they are likely to qualify for credit under the CRS. A community that is considering applying for the CRS should read Sections 110 and 120, and work through the quick check to see if its floodplain management program is likely to qualify for a CRS classification of nine or better.

This manual includes the entire text of the *Schedule*, segments of which are shown in shaded boxes. After most boxes is the *Commentary*, a discussion of the material in the box, more detailed information, examples, and instructions for calculating credit. Some parts of the *Schedule* require no additional explanation, so there is no commentary or discussion following those parts. Examples can be found in unshaded boxes, set in small type. Special notes are in italics.

> This is what the *Schedule* looks like.

This is what the *Commentary* looks like. The *Commentary* explains and expands on the part of the *Schedule* in the box above it.

> **Example FRW-1.** Examples look like this. Throughout the *Commentary* fictitious communities, such as Floodville, Watertown, Riverview, Gulf Beach County, and North Shore, are used as examples. Floodville is a relatively small town and its floodplain management programs are kept simple in order to provide clear examples of the basic CRS requirements. The other communities are used to illustrate more complicated situations. There are additional examples in the "CRS Credit for . . ." publications listed in Appendix E.

NOTE: *Notes are in italics.*

Changes from the previous edition are noted with a vertical line in the margin. Format, organizational, and example changes are not marked.

To fairly and objectively calculate credit points, the *Schedule* must include mathematical formulae. However, if the calculations are taken one step at a time, as shown in this manual, they are not difficult. New applicants for CRS credit should rely on the *CRS Application*. Its calculations are much simpler. Communities that are submitting modifications need only use the activity worksheets for their new or modified CRS activities. Copies of this *CRS Coordinator's Manual*, the *CRS Application*, and the activity worksheets are available at no cost (see Appendix E).

Communities and other floodplain management professionals are encouraged to make suggestions on both the content and the form of the CRS. Send them to:

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This document uses many technical terms and acronyms. The terms are defined in the Glossary in Section 130. The acronyms are listed in Appendix B. The most common acronyms are:

NFIP	National Flood Insurance Program
FEMA	Federal Emergency Management Agency; most of the NFIP field work and community coordination is done by the 10 Regional Offices of FEMA
FIA	Federal Insurance Administration; FIA is the part of FEMA that is responsible for the insurance aspects of the NFIP, including the designation of CRS classifications.
CRS	Community Rating System
FIRM	Flood Insurance Rate Map; published by FEMA and provided to communities
SFHA	Special Flood Hazard Area; the floodplain delineated on the FIRM as A and V Zones.

TABLE OF CONTENTS

MAJOR CHANGES IN CRS CREDITS

This section notes the major changes in the scoring for CRS activities made since the CRS was initiated in 1990. They were introduced in the year noted. Other changes, such as added examples, minor revisions to documentation requirements, and format changes, are not discussed.

1994: Each section and activity in the 200 through 700 series was summarized in an outline on the first page of the section.

Application Procedures

In each year, one or more activities had additional documentation required with the application instead of being reviewed at the verification visit. This approach has helped to prevent communities from losing credit points after the verification visit.

1992: The application worksheets were revised to reduce the amount of work needed to complete them.

1993 and 1994: The procedures for submitting modifications were revised. A modification of one element in an activity requires an application worksheet and documentation for all the elements of the activity. A modification that results in a two-class improvement requires a reverification that includes the application worksheets and documentation for all activities.

1994: The criteria for reverifying a community's credit points every few years are explained in a new Section 234.

1994: A new *Short Form Application* was introduced. It is a separate publication that provides a simpler way to submit an initial application. Appendix E gives more information.

1996: The *Short Form Application* was expanded to include all activities and elements and was named the *CRS Application*. New applicants for CRS credit must use the *CRS Application.*

1999: In order to attain a Class 7 or better classification, a community must have a Building Code Effectiveness Grading Schedule (BCEGS) of Class 6 or better. To attain a Class 4 or better, a community must demonstrate that it has taken appropriate steps to eliminate or minimize future flood losses.

240 (Floodplain Management Plan)

1992: Credits for planned activities were changed to modify the activities rather than the elements. The "p" credit for an element was changed to a "p" credit for that activity's total score.

Calculating the credits for the plan was moved from the activity's application worksheet to AW-720. As a result of this scoring change, the total credit points for a given activity either remains the same or increases.

1994: The planning process was revised to be more explicit and to include reviewing activities that protect natural and beneficial functions. Credit for five activities can be increased by 15% for protecting natural and beneficial functions.

1996: Credit for the floodplain management plan was moved to Section 510 and revised to provide credit for the planning process rather than the content of the plan.

310 (Elevation Certificate)

1992: To simplify the formulae, ECCF (Elevation Certificates in Computer Format) was changed from being a multiplier worth up to 12.7 points to a separate variable worth up to 15 points. The total possible points increased from 140 to 142. However, few if any communities had enough points for the multiplier to be worth more than 10 points. Therefore, for most communities, the total credit for this activity either stayed the same or increased slightly.

1994: A default impact adjustment was added for communities that have elevation certificates for at least 25% of their post- or pre-FIRM buildings or at least 25% in computer format.

320 (Map Information)

1994: More guidance was provided on telling inquirers of the flood insurance purchase requirement.

1999: More explicit guidance was given on providing information about areas designated as part of the Coastal Barrier Resources System.

330 (Outreach Projects)

1994: Three new topics were added, bringing the total possible points up from 175 to 250: a map of the local flood hazard, the substantial improvement requirements, and natural and beneficial functions. A fourth element, FML (Floodplain Mailing List), was added.

1996: FML was dropped.

1999: A new element was added to allow a community to receive more points by implementing outreach projects pursuant to an adopted public information program strategy (OPS).

340 (Hazard Disclosure)

1992: To simplify the formulae, REB (Real Estate Agents' Brochure) and DOH (Disclosure of Other Hazards) were changed from being multipliers worth 9.2 points to separate variables worth 10 points. The total credit for this activity either stayed the same or increased slightly.

1999: An alternative approach to crediting Disclosure of the Flood Hazard (DFH) by real estate agents was initiated.

350 (Flood Protection Library)

1994: Credit was increased for having documents related to protecting natural and beneficial functions and the Floodplain Management Resource Center. The requirement for publicity and related documentation was dropped, but documents must be kept in the card catalog or equivalent retrieval system.

360 (Flood Protection Assistance)

1994: The credit criteria were substantially revised, although the total possible points remain the same.

1996: Points were added if the person providing the assistance graduated from the Emergency Management Institute's retrofitting course.

400 Series (Mapping and Regulations)

1994: More references to the special flood-related hazards were added. Coastal erosion was added as a creditable special hazard. More information is provided in *CRS Commentary Supplement for Special Hazards Credit*, which can be ordered as explained in Appendix E.

410 (Additional Flood Data)

1992: The approach to identifying and measuring the elements in this activity was significantly revised and simplified. The scoring was also changed, so a direct conversion is not possible. The three elements NDS (New Detailed Study), SSA (Site-Specific Analysis), and HED (Higher Standards for Existing Data), were replaced by one, AFD (Additional Flood Data).

The relative scores for the NDS and SSA approaches were incorporated into a new variable, RFE (Regulatory Flood Elevation). If a community received credit for NDS (a detailed study on a relatively long reach), then RFE = 50. An SSA approach (a study of only the development site before a permit is issued) results in RFE = 25.

Credit for additional data in areas studied in detail on the FIRM was formerly credited by HED. If the Federal Emergency Management Agency (FEMA) provided a base flood elevation, then RFE = 0, similar to the credit for HED. However, a new credit has been added for a new study of an area that was already studied in detail on the FIRM. While previously there was no credit for such a restudy, now RFE = 20.

To simplify the formulae, the old variables of AD (Additional Delineations), HHS (Higher Hydrology Standard), and SRAD (State Review of Additional Data) have been changed from multipliers. They are now combined into one element, ADS (Additional Data Standards).

FWS (More Restrictive Floodway Standard) is still worth approximately the same, but its credit points are now based on discrete value ranges instead of a formula. A similar simplification was

done to calculate the local cost sharing. The former variable, LCS (Local Cost Sharing), has been replaced by NFS (Non-FEMA Share). Applicants no longer need to research the original study costs because credit is based simply on whether there was any non-FEMA cost sharing.

Three options were introduced for the impact adjustment. The inclusion of a default value was expected to make using the impact adjustment easier.

The denominator in the impact adjustment has been changed from aRF (area of the Regulatory Floodplain) to aSFHA (area of the Special Flood Hazard Area). The maximum value for the impact adjustment changed from 1.0 to 2.0. These changes result in higher scores, especially where the activity covers large areas not mapped as SFHA on the FIRM.

The maximum points for Activity 410 increased from 247 to 360. The maximum is attainable only if the impact adjustment is 2.0. If a more common impact adjustment of 1.0 were used, the maximum would decrease from 247 to 180.

1996: The *Coordinator's Manual* clarified the credit for providing additional flood data in areas affected by one of the special hazards that are covered in the *CRS Commentary Supplement for Special Hazards Credit.*

1999: Credit points for most of the elements were increased and the credit criteria revised.

420 (Open Space Preservation)

1992: To simplify the formulae, DR (Deed Restrictions) was changed from being a multiplier worth up to 75 points to a separate variable worth 75 points. There is no change in the total credit for DR when it is combined with the impact adjustment.

The impact adjustment now has three options, including a default value for those who do not want to calculate the affected areas.

1994: A new element was added: NB (Natural and Beneficial Functions) worth up to 100 points for open space preserved or restored to its natural state.

1999: The credit points for preserving open space (OS) were significantly increased.

430 (Higher Regulatory Standards)

Most of the changes to Activity 430 have been aimed at simplifying the formulae and crediting partial approaches to an element. Maximum points increased from 35 to 100 for five special hazards. Incorporating low density zoning from Activity 420 increased the total possible points.

1992: Another partial score was made possible for tracking improvements over 5–10 years. These changes did not alter existing applications; they only made it easier to credit alternative approaches to CSI.

The formula for the LSI (Lower Substantial Improvement) threshold was replaced with discrete value ranges.

The impact adjustment now has three options, including a default value for those who do not want to calculate areas.

1994: Credit was provided under foundation protection for adopting the soil testing and compaction language of one of the three national building codes. The credit for regulating additions is no longer mutually exclusive from other cumulative substantial improvement credit. Prohibiting fill under PSC (Protection of Storage Capacity) increased from 50 to 80 points while compensatory storage decreased from 80 to 70.

Three new elements were added, bringing the total possible points up to 905 (including low density zoning):

NBR (Natural and Beneficial Functions Regulations): Up to 25 points for prohibiting development in the floodplain that is hazardous to public health or water quality.

ENL (Enclosure Limits): 50 points for prohibiting first floor enclosures.

OHS (Other Higher Standards): Up to 25 points for other regulations that will be reviewed and scored by FEMA.

1996: Points were added if the person responsible for floodplain permitting graduated from the Emergency Management Institute's course on managing floodplain development.

1999: The credit points were significantly increased for Freeboard (FRB), Protection of Critical Facilities (PCF), and Enclosure Limits (ENL). Credit for tracking Cumulative Substantial Improvements (CSI) was revised. Two new elements, credit for State-mandated Regulatory Standards (SMS), and Building Code and Staffing (BCS), were initiated.

440 (Flood Data Maintenance)

1992: DMD (Digitized Map Data) was split into two elements, GIS (Geographic Information System) and DPD (Digitized Parcel Data). More credit has been provided for GIS mapping. MAM (More Accurate Base Map) and OM (Overlay Map) have been combined so that more credit is provided for OM (Overlay Map).

GIS, DPD, and OM are no longer mutually exclusive, which allows more credit where new systems are being installed gradually or where one system does not receive maximum credit. Due to the elimination of MAM as a separate element, the maximum points have decreased slightly from 125 to 120.

The impact adjustment now has three options, including a default value for those who do not want to calculate areas.

1994: The element "GIS" was renamed DMS (Digital Mapping System) to avoid confusion with real geographic information systems. Full credit is only possible if the community has a real GIS that works on FEMA's systems.

Ten more points can be obtained for DMS, DPD, and OM for showing special hazard areas, including coastal erosion. A new element was added: EDM (Erosion Data Maintenance) for keeping track of coastal erosion. It is described in *CRS Commentary Supplement for Special Hazards Credit*.

1996: Credit for DMS, DPD, and OM were modified slightly for clarification and consistency.

1999: Three approaches to maintaining flood data were combined under one element, Additional Map Data (AMD). A new element was added to provide credit for maintaining copies of all FIRMs that have been issued for the community (FM).

450 (Stormwater Management)

1992: A review of this activity resulted in several credit point revisions. SZ (Size of Development) dropped from a maximum of 64 to 40 points, and PUB (Public Maintenance) was reduced from 32 to 30 points. These reductions were offset by an increase in DS (Design Storm) from 130 to 155 maximum points.

To simplify the calculation, the formulae for SZ and PUB were replaced by discrete range values. This will change the credit for SMR (Stormwater Regulations) for many communities. Scores for communities with 100-year design storms will increase, while the scores for communities that regulate to 10-year or smaller storms will generally decrease.

SMP (Stormwater Management Master Plan) and SRSM (State Review of Stormwater Management Plans) were changed from 10% multipliers to discrete values of 25 points. ESC (Erosion and Sediment Control) was moved from Activity 540 to this activity. The 45 points for ESC account for most of the increase in the maximum score from 331 to 380.

1994: There was some reorganization to clarify the importance of the stormwater management regulation language. No credit will be provided under this activity if only very large developments are regulated.

A new element was added: WQ (Water Quality) for stormwater management regulations that require use of best management practices to minimize the impact of stormwater runoff from new developments.

1999: The points for the various subelements in Stormwater Management Regulations (SMR) were revised to provide relatively greater credit for Public Maintenance of Stormwater Facilities (PUB). The maximum for Stormwater Management Master Plan (SMP) was greatly increased and the points for partial credit were clarified.

500 Series (Flood Damage Reduction)

1994: The description of the repetitive loss list and application requirements was clarified. There is a new Section 503 that discusses why the CRS does not credit structural projects.

1996: The repetitive loss requirements were moved from Section 510.

510 (Repetitive Loss Projects)

1992: The formula for the credits from Activity 330 was corrected to account for the number of years between projects. Because Activity 610 was revised, the credits for the contributing elements from 610 were revised. As a result, the maximum points decreased from 444 to 441.

1996: This section was changed to 510 (Floodplain Management Planning). Credit for floodplain management planning was moved from Section 240. Repetitive loss requirements were moved to Section 500. Credit for floodplain management planning and repetitive loss planning were combined and revised to provide credit for the planning process rather than the content of the plan.

520 (Acquisition and Relocation)

1994: A default impact adjustment was added. If the community has acquired or relocated at least 5 buildings, it can receive 16 points.

1999: The credit points were significantly increased. Additional credit was provided for acquiring or relocating buildings on FEMA's repetitive loss list. A new default impact adjustment formula was instituted.

530 (Retrofitting)

1994: The retrofitting credits were substantially revised to provide less credit for projects that were not engineered or otherwise have a higher possibility of failure. A default impact adjustment was added. If the community has at least 5 buildings that have been retrofitted, it can receive 14 points. A new five-page supplement explains retrofitting techniques.

1999: The credit points were significantly increased. Additional credit was provided for acquiring or relocating buildings on FEMA's repetitive loss list.

540 (Drainage System Maintenance)

1992: Because it is a stormwater management regulation, ESC was moved to Activity 450 (Stormwater Management). This resulted in a lowering of the total possible points from 375 to 330. However, the maximum points for Activity 450 were increased accordingly.

To simplify the formulae, SDR (Stream Dumping Regulations) was changed from being a multiplier worth up to 30 points to a separate variable worth up to 30 points. The impact adjustment now has three options, including a default value for those who do not want to calculate areas.

The requirements for the documentation for CDR (Channel and Basin Debris Removal) were changed. Most communities will need to prepare new program explanations when they resubmit their application for this activity.

1994: In most cases, the application documentation must include a map of the drainage system. There is a new prerequisite for stream dumping regulations: the community must publicize the regulations through an annual outreach project. A new element has been added: EPM (Coastal Erosion Protection Maintenance). It is described in *CRS Commentary Supplement for Special Hazards Credit*.

1999: The approach to crediting Channel and Basin Debris Removal (CDR) and Stream Dumping Regulations (SDR) was revised to allow more flexibility in recognizing local programs.

610 (Flood Warning Program)

1992: This activity was completely revised. Credit is no longer given for Local Data Sharing (LSDS). The same basic documentation is required: a description of the flood threat recognition system and excerpts from the flood response plan. However, all the elements and the scoring have been changed.

The impact adjustment now has three options, including a default value for those who do not want to calculate the affected areas. The maximum points decreased slightly from 205 to 200.

620 (Levee Safety)

1994: A default impact adjustment was added. If the levee protects at least five buildings, the community can receive 9 points. The requirements for levee certification were revised to allow determinations made by the U.S. Army Corps of Engineers.

630 (Dam Safety)

1992: The impact adjustment now has three options, including a default value for those who do not want to calculate the affected areas.

710 (Community Growth Adjustment)

1994: The Donnelley Report Growth Rate was dropped from the calculations for average growth rate.